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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK E. PECEN, NIELS PETER SKOV ANDERSEN,
and SANJAY GUPTA

Appeal 2009-002239
Application 10/824,550
Technology Center 2600

Decided: September 30, 2009

Before JOSEPH F. RUGGIERO, MAHSHID D. SAADAT,
and THOMAS S. HAHN, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-23, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

Appellants' invention relates to selecting a communications system by a wireless device capable of operating in different communications systems, such as cellular communications networks like GSM and in broadband wireless networks (§ [0001]). The wireless device obtains and uses a measure of its mobility as a basis for determining whether and/or when to select or reselect a communications system and whether and/or when to search or monitor and/or scan for a communications system (§ [0017]). Claims 1 and 11, which are illustrative of the subject matter on appeal, read as follows:

1. A method in a wireless communications device, the method comprising:

obtaining a measure of mobility of the wireless communications device;

monitoring a first system while selected to a second system only if the measure of mobility exceeds a mobility threshold.

11. The method of Claim 10, determining the mobility measurement from regression error information of a signal measurement on the broadband wireless network.

The Examiner relies on the following prior art references in rejecting the claims:

Kallio	US 2002/0147008 A1	Oct. 10, 2002
Chheda	US 2003/0114162 A1	Jun. 19, 2003
Riley	US 2004/0203880 A1	Oct. 14, 2004 (filed Oct. 24, 2002)
Stoter	US 7,092,710 B1	Aug. 15, 2006 (filed Apr. 4, 2000)

Claims 1, 3-5, 7, 8, 22, and 23 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kallio.

Claims 6, 10, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kallio.

Claims 2, 9, 11, 15, 20, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kallio and Stoter.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kallio, Stoter, and Riley.

Claims 16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kallio and Chheda.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kallio, Chheda, and Riley.¹

Rather than repeat the arguments here, we make reference to the Appeal Brief (filed Jul. 5, 2007) and the Answer (mailed Oct. 23, 2007) for the respective positions of Appellants and the Examiner. Only those arguments actually made by Appellants have been considered in this decision. Arguments that Appellants did not make in the Brief have not

¹ The discussion of the claim rejections is repeated on pages 3-13 of the Examiner's Answer.

been considered and are deemed to be waived. *See* 37 C.F.R.
§ 41.37(c)(1)(vii).

ARGUMENTS

§§ 102 and 103 Rejections over Kallio

With respect to the anticipation rejection of independent claim 1, Appellants contend that Kallio does not discuss device mobility or any mobility related to transmission level or link quality (Br. 5). Appellants argue that the relied on portion of Kallio discloses resuming measurement of GSM neighbor cells when the WLAN transmission level drops between two threshold values (*id.*). Appellants further argue patentability of independent claims 10 and 22 based on arguments similar to those presented for claim 1 (Br. 5-7). We therefore select claim 1 as representative of the group.

The Examiner characterizes a measure of transmission level (rx-level) of the communications network as the claimed “measure of mobility of the wireless communications device” (Ans. 3-4, 14). The Examiner reasons that since the term “mobility” is not specified in the claim, one of ordinary skill in the art would have interpreted “mobility” as broadly as possible to read on “a telecommunication link quality related to a mobile station, such as signal reception/transmission level,” as disclosed in paragraph [0048] of Kallio (Ans. 14).

§ 103 Rejection over Kallio and Stoter

Regarding the obviousness rejection of claim 11, which is dependent on claim 10, over Kallio and Stoter, Appellants allege error in the Examiner’s reliance on Stoter to disclose the claimed step of obtaining a mobility measurement based on regression (Br. 8). Appellants contend that

Stoter discloses using Bit Error Rate and Frame Error Rate as a measure of link quality and cannot render claim 11 unpatentable (*id.*). Appellants provide similar arguments for claim 20 and further assert patentability of this claim by merely repeating the features recited in the claim and stating that Stoter fails to disclose the feature related to a dynamic threshold (Br. 8-9).

The Examiner reiterates that, since the term “mobility” and the limitation of measure of mobility based on an error value are not specified in the claim, one of ordinary skill in the art would have interpreted “regression” as measuring a value over time, whereas “regression error information” could have been interpreted as measurements of error information related to signal quality (Ans. 18). The Examiner relies on Kallio’s disclosure related to using different parameters to calculate rx-level threshold and argues (*id.*) that Stoter provides for measuring radio link quality over time using Bit Error Rate (BER) and Frame Error Rate (FER) as regression error information of a signal measurement in a handover process. We therefore select claim 11 as representative of the group.

§ 103 Rejection over Kallio and Chheda

Similar to the claim rejection over Kallio and Stoter, Appellants argue that determining “regression line error information based on broadband wireless network signal measurements,” as recited in claim 16, is not met by any part of the disclosure of Chheda (Br. 10). Appellants assert that Chheda discusses using orthogonal code reuse and collision detection based on Frame Error Rate (FER) greater than a threshold in a handoff process (*id.*). Appellants nominally assert patentability of claim 18 by merely repeating the claim limitation (*id.*) and rely on arguments made for claim 19 that are

similar to those raised *supra* for claim 10 (Br. 11). We therefore select claim 16 as representative of the group.

Similar to the reasoning provided for combining Stoter with Kallio, the Examiner asserts that one of ordinary skill in the art would have interpreted “regression line error information” of claim 16 as measuring error information related to signal quality over time (Ans. 20). The Examiner specifically points to paragraph [0024] of Chheda for disclosing relative measurements of error information for handover decision making, which meets the claimed “regression line error information” (Ans. 20-21).

§ 103 Rejections over Kallio/Stoter/Riley or Kallio/Chheda/Riley

With respect to the obviousness rejections over Kallio in combination with Stoter and Riley or in combination with Chheda and Riley, Appellants provide no argument.

ISSUES

Therefore, Appellants’ arguments present the following issues:

1. With respect to the rejections over Kallio, have Appellants shown that the Examiner erred in finding that the measure of transmission level (rx-level) of the communications network in Kallio meets the claimed feature of “a measure of mobility of the wireless communications device”?

2. With respect to the rejection over Kallio in view of Stoter or Chheda, have Appellants shown that the Examiner erred in finding that measuring radio link quality over time using Bit Error Rate (BER) and Frame Error Rate (FER), used in Stoter or Chheda for signal measurement in a handover process, is the same as the claimed “regression error information” or “regression line error information”?

FINDINGS OF FACT

The following findings of fact (FF) are relevant to the issues involved in the appeal.

1. Appellants' Specification discusses exemplary embodiments for computing mobility related to obtaining a measure of mobility by the wireless communications device. (Spec. ¶ [0017].)

2. Appellants' Specification discloses the measure of mobility based on regression error of system signal measurements, which is used in making predictions for multiple signal measurements made over corresponding time intervals or windows. (Spec. ¶ [0018] – [0019].)

3. Appellants' Specification further discloses the measure of mobility based on other factors and schemes, such as cell selection information. (Spec. ¶ [0025].)

4. Kallio relates to solutions for providing seamless mobility between a Global System for Mobile communication (GSM) network and a different local radio network (e.g., wireless LAN), particularly when such local radio network is used in hotspot areas or when a Mobile Station (MS) roams between the GSM network and wireless LAN (WLAN). (¶ [0002].)

5. Kallio discloses that the Handover Module may request a handover when the played GSM cell rx-level (transmission level) exceeds a certain threshold, even though the serving cell rx-level is good and there are many good GSM neighbor cells. (¶ [0013].)

6. According to Kallio, if the GSM cell information matches the neighbor information and, if the WLAN rx-level (transmission level)

thresholds comparison indicates that the WLAN cell should be selected, the Mobile Station (MS) 150 makes a location update attempt. (§ [0036].)

7. At this point, if WLAN rx-level thresholds comparison indicates that the WLAN cell should be selected, the Mobile Station (MS) 150 of Kallio starts or continues measuring the GSM neighbors and roaming from a GSM network 100 to a wireless LAN 200. (§ [0037].)

8. After a handover of the Mobile Station (MS) 150 towards wireless LAN 200, the WLAN rx-level (transmission level) may contain two threshold values. If the WLAN rx-level is higher than the upper threshold value, the Mobile Station (MS) 150 may switch OFF the GSM side to save battery. If the WLAN rx-level drops between the two threshold values, the Mobile Station (MS) 150 may start measuring the GSM neighbor cells again. (§ [0048].)

9. Stoter discloses that the handover threshold is dynamically adapted subject to actual measured Radio Signal Strength Indication (RSSI) levels, which are field strength measurements of the received field strength at a communication unit. (Col. 3, ll. 44-49.)

10. Stoter discloses that the number of bit errors occurring during a call in progress, generally expressed as the Bit Error Rate (BER), provides an indication of the radio link quality. In a frame-oriented transmission standard, such as TDMA, the number of erroneous frames, called the Frame Error Rate (FER), likewise provides a measure for the radio link quality. (Col. 4, ll. 7-14.)

11. Stoter further teaches that the handover threshold is adapted inversely proportional to the BER and/or FER. (Col. 4, ll. 15-21.)

12. Chheda discloses a multi-carrier communications system wherein the measured Frame Error Rate of the call exceeding the target Frame Error Rate by a given threshold for a given pre-determined period of time is observed. Based on the distance between the users or their movements, appropriate thresholds can be defined to trigger a hard handoff, or the appropriate thresholds can be triggered when users move into incompatible zones. (§ [0024].)

PRINCIPLES OF LAW

1. *Scope of Claim*

The scope of the claims in patent applications is determined not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the Specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The “broadest reasonable interpretation” rule recognizes that “before a patent is granted the claims are readily amended as part of the examination process.” *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1583 (Fed. Cir. 1987) (citation omitted). Thus, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969).

2. *Anticipation*

A rejection for anticipation requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. *See Atlas Powder*

Co. v. IRECO, Inc., 190 F.3d 1342, 1347 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

3. *Obviousness*

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977, 987-88 (Fed. Cir. 2006); *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). The initial burden of establishing reasons for unpatentability rests on the Examiner. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992).

The Examiner can satisfy this burden by showing “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *Kahn*, 441 F.3d at 988).

ANALYSIS

Rejections over Kallio

Appellants’ arguments that the Examiner erred in rejecting claim 1 as being anticipated by Kallio are not persuasive. Upon reviewing the reference and the breadth of the claims, we find the Examiner’s position with respect to reading the claimed “measure of mobility” on the WLAN transmission level (rx-level) in Kallio to be reasonable and supported by the evidence of record. In that regard, we observe that while the term “measure of mobility” is not mentioned in Kallio, the reference is concerned with seamless mobility between different network types (FF 4).

We also agree with the Examiner’s finding (Ans. 14) that one way the “measure of mobility” is defined in Appellants’ Specification is based on

cell selection (FF 3) which, in turn, relates to the location of the user and handoff to a neighboring cell. The Examiner also properly read the claimed “mobility threshold” on the threshold set for the rx-level in Kallio (FF 5-8).

However, Appellants merely repeat the recited features of claims 10 and 22 and insist that the Examiner erred in finding a prima facie case of anticipation, but they have not pointed to any clear flaw in the reasoning of the Examiner on this issue, nor have they pointed to any evidence of record indicating that the findings of the Examiner on this issue are unsupportable. Additionally, Appellants do not address the Examiner’s specific interpretation of a “measurement of mobility” articulated in the Answer nor do they explain why such a position is deficient. Specifically, Appellants have not explained why the claim term “measurement of mobility,” when given its broadest reasonable interpretation, cannot be read on the WLAN rx-level of Kallio. Also, merely pointing out what a claim recites (Br. 5) is not considered an argument for separate patentability of the claim.
37 C.F.R. § 41.37(c)(1)(vii).

Rejection over Kallio and Stoter

Similar to the discussion of claim 1, we observe that Appellants merely repeat the claimed limitations and what the references are purported to teach without pointing out why the Examiner’s position was in error. With respect to Stoter, we find that the Examiner has articulated a convincing line of reasoning with respect to the interpretation of the claimed “regression error information” and the reference teachings related to measuring the mobility based on the link quality as determined by Bit Error Rate or Frame Error Rate (Ans. 17-18).

In that regard, we find that the Examiner's interpretation of the term "regression error information," recited in claim 11, as a mathematical model based on regression error of signal measurements is consistent with Appellants' disclosure (FF 1-2). We also recognize that such interpretation is consistent with the meaning of "regression error information" as understood by one of ordinary skill in the art.² Therefore, using a regression method for analyzing and modeling the signal measurements in Stoter based on Bit Error Rate or Frame Error Rate to provide a measure of radio link quality (FF 9-10) would have been available and obvious to one of ordinary skill in the art in processing the handover between communications networks.

With respect to claim 20, Appellants mostly repeat the same arguments presented for claim 11, which were found to be unpersuasive, and additionally argue that the claimed dynamic threshold is not taught by Stoter (Br. 9). We again disagree. As pointed out by the Examiner (Ans. 19), Stoter does disclose that the handover threshold is dynamically adapted based on the measured signal strength over time (FF 9).

Rejection over Kallio and Chheda

Appellants present arguments regarding claim 16 (Br. 10) that are similar to those discussed for claim 11 with respect to the teachings of Stoter. As discussed above, we find no error in the Examiner's position

² Regression analysis is defined as: "In statistics, an analysis of the degree to which variations in an independent variable affect a dependent variable (a variable whose value depends on the value of another variable)." Microsoft® Computer Dictionary, Fifth Edition, <http://proquest.safaribooksonline.com/0735614954/ch19> (accessed Sep. 24, 2009).

because no substantive arguments are presented by Appellants (Br. 10) to explain how using known regression method for mathematically analyzing a set of variables to model signals based on the error rate, disclosed by Chheda (FF 12), is different from the claimed subject matter. We consider such conclusory assertions without supporting explanation or analysis particularly pointing out errors in the Examiner's reasoning to fall short of persuasively rebutting the Examiner's prima facie case. *See Oetiker*, 977 F.2d at 1445.

CONCLUSION

Based on the findings of facts and the analysis above, we conclude that Appellants have not shown that the Examiner erred (1) in finding that the measure of transmission level (rx-level) of the communications network in Kallio meets the claimed feature of "a measure of mobility of the wireless communications device" and (2) in finding that measuring radio link quality over time using Bit Error Rate (BER) and Frame Error Rate (FER), used in Stoter or Chheda for signal measurement in a handover process, is the same as the claimed "regression error information" or "regression line error information."

For the reasons discussed above and provided by the Examiner, and because Appellants have not shown error in the Examiner's rejections, we sustain the 35 U.S.C. § 102(b) rejection of claims 1, 3-5, 7, 8, 22, and 23 and the 35 U.S.C. § 103(a) rejections of claims 2, 6, and 9-21.

ORDER

The decision of the Examiner rejecting claims 1-23 is affirmed.

Appeal 2009-002239
Application 10/824,550

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

babc

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